

Abstract of the Disclosure

An illumination subsystem for use in optical analysis which provides spatially and angularly homogenized radiation to the sample being analyzed. The system eliminates the illumination system as an interferent in the overall optical analysis. Thus, modest translations or rotations of the illumination source or changing the illumination source does not require recalibration of the instrument or prior modeling of illumination variability due to such changes. Illumination stability is achieved by incorporating a light pipe which both angularly and spatially homogenizes the light. Further, a series of filters and/or lenses are incorporated to provide bandpass filtering which eliminates unwanted wavelengths or bands of wavelengths from contacting the tissue and allows for a higher signal-to-noise ratio when the sample is tissue, while preventing thermal damage.

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By: Kathleen L. Boekley